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ABSTRACT

This study examined the effects of public service advertising from two theoretical backgrounds: social learning theory and social control theory. Traditional social learning theory assumes that learning occurs by subjects performing responses and experiencing their effects, with reinforcement as the main determinant. Social control theory, as defined by Donald Black (1984), emphasizes all practices by which people define and respond to deviant behavior. This study is a secondary analysis of data on the attitudinal and behavioral effects of the crime prevention campaign, "Take a Bite Out of Crime," initiated in 1979 and delivered by television, radio, newspapers, and magazines. Data were collected through 1,454 personal interviews conducted by the Roper Organization. Two-way analysis of variance produced 6 permutations comprised of 54 dependent variables. The study examined variance in: crime prevention behavior, self-estimation of likelihood of future crime prevention behavior, cognitive effects, recall of campaign, social control involving neighborhood integration, and additional social control agents. Results indicated that the effectiveness of public service advertising campaigns is closely tied to interpersonal communication activity within a community and that, on their own, these campaigns rarely, if ever, achieve the intended attitudinal or behavioral results. (Contains 6 tables of data and 31 references.) (CR)

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EFFECTS OF A NATIONAL PUBLIC SERVICE INFORMATION CAMPAIGN ON CRIME PREVENTION: PERSPECTIVES FROM SOCIAL LEARNING AND SOCIAL CONTROL THEORY

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ABSTRACT

The past two decades have seen a significant increase in the amount of money allocated to public service advertising. Many of these advertisements address health and safety issues. But how effective is this approach to changing attitudes and behavior? Research to date is not encouraging, since in some cases it indicates that dissemination of information is ineffective, and in others it has produced conflicting results.

The purpose of this study is to examine the effects of public service advertising from two theoretical backgrounds: social learning theory and social control theory. Traditional social learning theory assumes that learning occurs by subjects performing responses and experiencing their effects, with reinforcement as the main determinant. Social control theory, as defined by Black (1984), emphasizes all practices by which people define and respond to deviant behavior.

This study is a secondary analysis of data on the attitudinal and behavioral effects of the "Take a Bite Out of Crime" campaign. Data were collected through 1454 personal interviews conducted by the Roper Organization. Two-way analysis of variance produced six permutations comprised of 54 dependent variables. This analysis examined variance in: crime prevention behavior, self-estimation of likelihood of future crime-prevention behavior, cognitive effects, recall of campaign, social control involving neighborhood integration and additional social control agents.

The results indicate that the effectiveness of public service advertising campaigns is closely tied to interpersonal communication activity within a community. On their own, these campaigns rarely if ever achieve the intended attitudinal or behavioral results. However, they can function as a catalyst for transmitting this information through interpersonal channels, and, possibly, creating change through this process.

I. INTRODUCTION

The public service advertising (PSA) arena has huge financial resources, and significant finaincial resources have been used to deliver public service advertising via the mass media (Bazozzi & Moore, 1994). However, it is commonly held that PSA is not well received by mass media owners (Hanneman, McWen & Coyne, 1973). In the 1980s and 1990s, public service advertising grew substantially not only in its sheer volume but also in the number of topics addressed, which included such issues as drug use (Schmeling et al, 1980; Black, 1991; Lorch et al., 1994), fund raising (Armstrong, 1983), and public health (Mazzoni, 1985; Wyatt, 1986).

This study applies social learning and social control theories to investigate behavioral and cognitive effects of public service advertising using data collected for the crime prevention campaign "Take a Bite Out of Crime." The major objectives of the campaign were (1) developing a greater sense of individual responsibility among citizens for reducing crime, (2) dispelling unwarranted feelings of frustration and hopelessness regarding crime and criminal justice, and (3) encouraging citizens to take collective preventive actions. Effects studied are crime prevention-oriented activities; intent to prevent crime, perceived degree of helping to prevent crime, confidence in self-protection, gain of knowledge about crime prevention, and belief in effectiveness of precautionary measures.

II. LITERATURE REVIEW

Studies of Public Information Campaigns

What is a public information campaign and what are the effects of such an endeavor? Paisley (1981) notes that definitions of a campaign either stress (1) the intention or (2) the process. Campaigns are mounted for an enormous variety of purposes, including but not limited to (1) the purposiveness of a campaign (Cell, 1977), (2) targeting large audience (Atkin, 1981), (3) specified time span (Rogers et al, 1979), and organized set of communication activities (Schramm, 1964; Rogers, 1973; Hall, 1978; Flay & Cook, 1981; McQuail, 1983; McGuire, 1984).

Studies of Public Service Advertising (PSA)

Public service advertising (PSA) may be successful at times, but historically PSA designers have not been as interested in goal setting, audience targeting, and media and message selection and research as they have been in impressing media colleagues and agency policy makers, and in maintaining their budgets (Schmeling & Wotring, 1980). Previous research on the effects of information dissemination via standard mass communication channels is not only limited, but has produced conflicting results. Some authors have found that the dissemination does not have much effect in changing attitudes (Klapper, 1960; MacQuail,1969; Weiss, 1969), while others suggest that media information can affect consumers in terms of the perceived importance of issues (agenda setting effects), knowledge gain (information increase), and attitude and behavioral changes

(Douglas et al., 1970; Maccoby & Farquhar, 1975; Schmeling & Wotring, 1976; Eadie, Hasting & Haywood, 1990; Aitken et al., 1991; Friestad & Wright, 1994; Pechman & Ratneshwar, 1994). In the end, however, the overall study of the effect of PSA on target audiences has been largely neglected (Lynn, 1971; McGuire, 1986).

Theoretical Background

The theoretical perspective of the present study combines insights from social learning theory and the social control model.

Traditional social learning theory assumes that learning occurs by subjects actually performing responses and experiencing their effects. The main determinant of learning is reinforcement, or the extent to which the organism is rewarded (or punished) for performing the response. Behavior is considered to be externally regulated by the stimulus conditions that elicit it and by the reinforcing conditions that maintain it (Berger & Lambert, 1969).

Social control theory is best expressed by Black, who defines "social control" as "all practices by which people define and respond to deviant behavior" (Black, 1984,). This perspective implies that communities which fail to combat social changes like population shifts, racial changes, business expansion and disinvestment will experience increased fear (Skogan et al. 1982; Lavrakas & Lewis, 1980). Researchers have determined that socially integrated members of a neighborhood are more likely to participate in community activities than are less integrated residents (Logan

& Spitze, 1994) Community organizations play an important role in this conceptualization, for they are a primary mechanism for asserting community values through collective action. Organizations do this by attempting to control "signs of incivility" which appear in the community (Lewis, Grant & Rosenbaum, 1988).

Given what is known about the relationship between crime and social control, it seems possible that a mass media crime prevention campaign might combine with factors of social control to facilitate public response to such appeals, cognitive investment in such public issues, and behavioral change.

III. HYPOTHESES AND METHODOLOGY

Hypotheses

In this study attention is represented as recall, based on the assumption that attention is the means by which a persuasive message creates an impression. Cognitive psychologists have long known of two important dimensions of recall: (1) attention at the time of exposure, and (2) the ease of retrieval (Walker & Gonten, 1989).

The study tests the following hypotheses:

1. Crime prevention behavior, self-estimation of the likelihood of future crime prevention behavior, and cognitive effects are associated with recall of crime prevention campaign advertising disseminated through mass media and with knowing people in

neighborhood (familiarity), conversations with neighbors, and length of residence as factors of neighborhood integration.

2. Behavior, self-estimation of the likelihood of future crime prevention behavior, and cognitive effects are associated with family structure, trust in government, belonging to social organizations as social control agents, and recall of campaign advertising.

Methodology

The study is a secondary analysis of data from the "Take a Bite Out of Crime" campaign, which features an animated detective dog, arrayed in a trench coat and admonishing citizens to follow the example of "real people" prototypes who have helped "take a bite out of crime." The PSA, initiated in 1979, was delivered by television, radio, newspapers and magazines.

The errors involving recall measurement can be reduced by increasing the representativeness of the sample and using various (multiple) methods for the measurement of recall. In this study the representativeness of the sample was increased by collecting the responses based on the Roper Organization's master national probability sample of interviewing areas and a fairly large number of respondents (over 1,400).

Data were collected through personal interviews of 1454 respondents, and were based on a national probability sample of interviewing areas. Interviewing was conducted April 12, 1980

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through May 5, 1980. Multi-stage probability sampling was employed in selecting respondents for the interview.

The data are examined through a two-way analysis of variance, which controls one variable over the other, and investigation of the interaction effect between the two variables if any. To locate which level of each variable has contributed to observed significance, the Tukey method of multiple comparison procedure was applied (SAS User's Guide, 1985 Chapter 11; Hinkle et al., 1979 Chapter 12).

The primary model proposed for analysis takes the general form of: (variance in) crime prevention behavior, self-estimation of likelihood of future crime-prevention behavior, and cognitive effects = (is attributable to a combination of) recall of the media campaign plus variables of social control involving neighborhood integration and social control agents.

IV RESULTS

The two-way analysis of variance produced 6 permutations comprised of 54 dependent variables, and variance between variables was evaluated against the $<.05$ significance standard, with $p<.05$ +- .07 as the standard for marginal significance.

Recall of the PSA and neighborhood integration factors (neighbor familiarity, conversation with neighbors, and length of residence) when significant were assumed to imply association, but not causation, with behavior, estimation of the likelihood of future preventive behavior, help for crime prevention, interest in

helping crime prevention and three cognitive outcomes (confidence, information gain and precaution).

There are no interactions that suggest that campaign recall and any of the socially facilitative variables function additively. The few interactions that occur point to a role for media influence exclusive of other variables. However, the data consistently display statistically significant associations between the dependent variables and each of the paired independent variables. Thus, the data recommend revised models in which each of the paired variables is independently associated with the specified dependent variables.

Neighbor familiarity, conversation with a neighbor, and length of residence functioned in accord with this model, although the pattern was weakest for length of residence. Further analysis of the results provides us with a clearer understanding of the associations between the dependent and independent variables. While behaviors such as have neighbor watch and neighbor joint prevention are not significantly associated with PSA recall, somewhat simpler behaviors (locking doors and notifying police), future prevention behavior, help for crime prevention, and cognitive effects are significantly related to the PSA recall. On the other hand, collective behavior (neighborhood joint prevention), have neighbor watch, future behavioral intention, help for crime prevention and information gain are significantly associated with the factor of neighbor familiarity (Table 1). Confidence in self-protection was not significantly related to neighbor familiarity. However, it was

associated with conversation with neighbors (Table 2). The rest of the outcomes for conversation are similar to those of the model of PSA recall and neighbor familiarity. The model of PSA recall and length of residence has resulted in somewhat different outcomes from those of the first two (Table 3). Length of residence is associated with significant outcomes only for notifying police, have neighbor watch, collective behavior (joint prevention), and confidence.

Agents of social control resulted in a number of significant outcomes (Table 4 through Table 6) different from those of the neighborhood integration factors. Family structure (Table 4) produced statistical significance only for locking doors and the likelihood of future behavior; however, the direction of association for the first was opposite to that hypothesized. Trust in local government (Table 5) produced associations that were all significant except joint prevention and future behavior. Number of social organizations to which respondents belong (Table 6) is significantly associated with notifying police, having neighbor watch, help for prevention and all three cognitive outcomes. The only difference between the outcomes for number of organizations and trust in government is that locking doors is significantly associated with the latter and not the former.

TABLE 1. ANOVA FOR PSA RECALL & NEIGHBOR FAMILIARITY

	RECALL	NEBR.	INTR.
LOCKING DOORS	10.62**	0.39	0.53
NOTIFYING POLICE	5.17*	8.47**	1.38
HAVE NEIGHBOR WATCH	0.29	14.27***	0.29
NEIGHBOR JOINT PREVENTION	1.00	20.08***	0.30
FUTURE BEHAVIOR	5.42*	5.23**	1.73
HELP FOR CRIME PREVENTION	9.37**	14.63***	0.48
CONFIDENCE	30.93***	0.40	0.18
INFORMATION GAIN	16.54***	5.30**	0.52
PRECAUTION	17.00***	0.94	0.41

* p <0.05

** p < 0.01

*** p <0.001

MS: Marginally Significant

INTR.: Interaction

TABLE 2. ANOVA FOR PSA RECALL & CONVERSATION WITH NEIGHBOR

	RECALL	CONVSTN.	TR.
LOCKING DOORS	10.56**	1.62	0.95
NOTIFYING POLICE	4.82*	3.11*	0.22
HAVE NEIGHBOR WATCH	0.27	32.88***	0.74
NEIGHBOR JOINT PREVENTION	0.91	19.04***	0.64
FUTURE BEHAVIOR	4.46*	4.37**	0.26
HELP FOR CRIME PREVENTION	12.07***	12.96***	0.29
CONFIDENCE	32.77***	5.19**	1.25
INFORMATION GAIN	17.93***	7.52**	0.30
PRECAUTION	17.69***	0.82	2.34

* p <0.05

** p < 0.01

*** P < 0.001

MS: Marginally Significant

INTR.: Interaction

TABLE 3. ANOVA FOR PSA RECALL & LENGTH OF RESIDENCE

	RECALL	LENGTH	INTR.
LOCKING DOORS	10.55**	0.52	0.19
NOTIFYING POLICE	3.81(MS)	9.92**	0.83
HAVE NEIGHBOR WATCH	0.00	14.80***	1.82
NEIGHBOR JOINT PREVENTION	0.64	3.24*	0.40
FUTURE BEHAVIOR	3.81(MS)	1.41	2.83
HELP FOR CRIME PREVENTION	12.21***	2.29	0.69
CONFIDENCE	31.42***	5.44**	1.78
INFORMATION GAIN	18.10***	0.78	0.49
PRECAUTION	17.78***	1.76	1.78

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

MS: Marginally Significant

INTR.: Interaction

TABLE 4. ANOVA FOR PSA RECALL & NUMBER OF FAMILY

	RECALL	FAMILY	INTR.
LOCKING DOORS	10.79**	3.02*	1.23
NOTIFYING POLICE	4.59*	0.15	0.11
HAVE NEIGHBOR WATCH	0.08	1.75	0.53
NEIGHBOR JOINT PREVENTION	0.78	0.12	0.91
FUTURE BEHAVIOR	3.25(MS)	3.93*	0.09
HELP FOR CRIME PREVENTION	11.11***	2.50	0.35
CONFIDENCE	31.48***	0.33	0.48
INFORMATION GAIN	18.26***	0.32	0.13
PRECAUTION	16.85***	0.66	2.18

* p <0.05

** p <0.01

*** P <0.001

MS: Marginally Significant

INTR.: Interaction

TABLE 5. ANOVA FOR PSA RECALL & TRUST IN LOCAL GOVERNMENT

	RECALL	GOV'T.	INTR.
LOCKING DOORS	12.35***	2.69*	0.64
NOTIFYING POLICE	5.78*	7.89*	1.29
HAVE NEIGHBOR WATCH	0.02	3.10*	1.87
NEIGHBOR JOINT PREVENTION	1.33	2.04	1.12
FUTURE BEHAVIOR	5.31*	1.46	1.71
HELP FOR CRIME PREVENTION	10.14**	3.46*	1.22
CONFIDENCE	29.99***	4.54**	0.81
INFORMATION GAIN	17.25***	4.62**	2.15
PRECAUTION	16.27**	4.06**	1.80

* p <0.05

** p <0.01

*** P <0.001

MS: Marginally Significant

INTR.: Interaction

TABLE 6. ANOVA FOR PSA RECALL & NUMBER OF ORGANIZATIONS

	RECALL	ORGZTN.	INTR.
LOCKING DOORS	10.43**	1.07	2.17
NOTIFYING POLICE	4.95*	7.14**	1.63
HAVE NEIGHBOR WATCH	0.47	36.17***	1.11
NEIGHBOR JOINT PREVENTION	0.88	0.90	1.14
FUTURE BEHAVIOR	4.27*	2.20	0.43
HELP FOR CRIME PREVENTION	11.08***	19.10***	0.00
CONFIDENCE	31.47***	4.80**	0.10
INFORMATION GAIN	16.63***	20.92***	0.96
PRECAUTION	16.84***	8.91**	0.25

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

MS: Marginally Significant

INTR.: Interaction

V DISCUSSION

Hypothesis Tests

The first set of the hypotheses posited that recall of crime prevention campaign advertising disseminated through the mass media plus factors of neighborhood integration are associated with crime prevention behavior and with cognitive effects (Tables 1, 2 and 3). PSA recall as an independent variable is not significantly associated with have neighbor watch or collective behavior (neighborhood joint prevention) but is so associated with locking doors, future behavioral intention, help for crime prevention and cognitive aspects.

Therefore, the null hypotheses regarding PSA recall and neighborhood integration have been rejected by statistically significant associations with locking doors, likelihood of future behavior, help for crime prevention, confidence in self-protection, information gain on crime prevention and precaution by PSA recall, and by the variables of neighborhood integration for notifying police, having neighbor watch, neighbor joint prevention, future behavior (not associated with length of residence), help for crime prevention (not associated with length of residence), information gain (associated only with neighbor familiarity and conversation), and confidence (associated only with conversation and length of residence).

The second set of the hypotheses posited that the outcomes are

associated with family structure, trust in government and number of social organizations belonged to as social control agents and the recall of the campaign advertising. In terms of the second hypotheses (Tables 4, 5 and 6), differently from other agents of social control, family size did not show statistically significant positive associations with the dependent variables except for likelihood of future behavior (Table 4). In fact, a person who is from a small size of family was more likely to lock doors than a person who is from a large size of family. The results by trust in government appear to reveal that the more a respondent has trust in local government, the more likely he/she would do as follows: locking doors, notifying police when away, have neighbor watch, help for crime prevention, confidence, information gain, and precaution. All of the cognition-oriented dependent variables, notifying police, having neighbor watch, and help for prevention have statistically significant associations with the number of social organizations to which respondents belonged. However, joint prevention with neighbor, future behavior and locking doors were not significantly associated with this variable. The null hypothesis in regard to social control agents is rejected except for family structure.

PSA Recall

A simple behavioral act such as locking doors, and the likelihood of future behavioral intention and cognitive effects--confidence in self-protection, information gain in regard to crime

prevention, and level of precaution-- appear to be functions of PSA recall. In contrast, variance in have neighbor watch and neighborhood joint prevention is not explained by PSA recall. This suggests that collaborative acts for crime prevention need something more than mere message dissemination via mass media to be performed. This supports the rationale that message delivery through media plus intensive interpersonal instruction will be more likely to result in the behavioral changes intended by campaign designers than mere dependence on mass media (Maccoby and Solomon, 1981).

Information in the form of PSA may be relatively convincing in facilitating simple behavioral acts and cognitive outcomes. The lack of association of message recall with neighborhood-oriented behaviors (have neighbor watch or neighborhood joint prevention) indicates that although the PSA may be necessary in terms of information dissemination, it is not sufficient for the development of behavior involving others.

Numerous studies claim either a weak or lack of relationship between recall of message arguments and persuasion (Ross, 1982; Gibson, 1983). However, results of this study regarding possible effects of the recall of persuasive arguments on respondents' cognitive responses appear to indicate that recalling an argument is intrinsically linked to persuasion, at least for cognitive effects. Recalled messages concerning relevant aspects of current issues may influence an individual's motivation to carry out actions promoted by the messages or at least promote positive

perception of message-related issues (Black, 1991; Bagozzi & Moore, 1994; Friestad & Wright, 1994).

Social Control

The results suggest that social control factors may facilitate crime prevention-oriented behaviors, intention to help reduce crime, the likelihood of future implementation of preventive behaviors, confidence in protecting, perceived efficacy of precaution, and gain in information about crime prevention.

How neighborhood ties facilitate preventive behaviors and the cognitive aspects of campaign effects is of considerable theoretical and policy interest. The extent to which people are integrated into their communities is strongly linked to participation in various activities intended to promote community stability.

PSA recall and the level of conversation with people in the neighborhood resulted in almost the same results as did factors of neighbor familiarity in terms of both behavioral and cognitive associations. However, while neighbor familiarity was not statistically significant in terms of "confidence in self-protection," conversation with people in neighborhood was ($F=5.19$ $p<0.01$). "Talk" is more than mere speech. It embodies every human interaction that involves language or linguistic symbols.

Furthermore, although future behavioral intention and actual help in crime prevention were predicted significantly by both neighbor familiarity and conversation with neighbors, intention and

help were not associated with length of residence. Confidence in self-protection was associated with length of residence ($F=5.44$ $p<0.01$) and conversation with neighbors ($F=5.19$ $p<0.01$) but not with the variable, neighbor familiarity. This pattern is suggestive of a hierarchical influence in which length of residence is a necessary circumstance for neighbor familiarity and frequency of conversations; familiarity is an imperfect representative of involvement because knowledge of and integration with are hardly synonymous; and conversation may be the best reflector in these data of integration because it implies regular, mutually positive association.

Regardless of family size, it is the family that acts as the primary agent of social control. Therefore, the family has the capability to marshal individual emotional and psychological drives for the sake of preserving common interests of family members more than any other social control agent. Additionally, the family holds greater potential for shaping behaviors and attitudes, compared to other groups.

The finding that trust in local government has statistically significant associations with all dependent variables except for neighborhood joint prevention and future behavioral intention indicates that the public generally perceives a significant association between crime control and local government.

Findings for the variable of organizational membership are weaker but largely similar to those for trust in government (Table 6). Belonging to an organization plays a significant role in the

acquisition of information and in the development of attitudes relevant to the individual's effectiveness as a member of society via participation in social institutions, a phenomenon that may be termed "organization properties."

This study suggests that exposure to the crime prevention PSA promoted respondents' simple prevention-oriented behavior and facilitated cognitive effects such as confidence, information gain, and faith in precaution. Although PSA spots used in broadcast media are at a disadvantage compared to product ads in terms of the time when aired, frequency of broadcast and length of exposure, and PSA in print media do not enjoy continuous insertion, the messages' frequent repetition in the long run plus the public's attentiveness to PSA issues may facilitate learning about the issues and enhanced cognitive attitudes toward various social concerns.

Given the relative superiority of recall in the number and consistency of positive, significant cognitive outcomes, and the superiority of the social control-related variables in regard to the more demanding behavioral outcomes, we conclude that a mass media campaign concerning crime prevention and implementation of community-based crime prevention efforts are compensatory. Each type of campaign has unique advantages and disadvantages. For instance, community networks cannot reach the large audiences touched by mass media, but such networks capitalize upon channels of interpersonal communication which have been found to be more effective than media in producing behavioral change. The results of this study strongly suggest the goals of public information

campaigns cannot be achieved through mere dependence on the mass media. Even if there is a causal link between cognitive effects and exposure to a campaign, there remains the unceasing argument over any further connection between cognition and behavior.

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